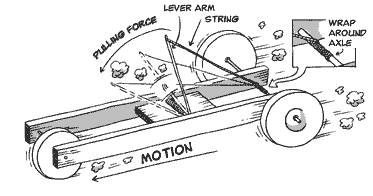
**Mousetrap Car Challenge**

Adapted from the MESA day contest 2013-2014

Grade 8

2-3 students per team

TASK: Student will design and build their own vehicle, which must be solely powered by a standard mousetrap and travel the greatest distance along a specified track. Project must be the original work of the students. Judges may ask questions for verification.

**Rules:**

1. Students must design and build their own vehicle which must be solely powered by the mousetrap and activated by tripping the original mousetrap trip mechanism
2. NO other energy source may be added. (e.g. CO2 cartridge, batteries, elastic strings, rubber bands, etc.)
3. The standard mousetrap must be mounted to the chassis AND must NOT be painted or decorated.
4. Hardware may be added to the mousetrap, but the original hardware and mounting block may ONLY be altered to attach it to the vehicle. The mousetrap may not be disassembled and then reassembled.
5. The springs on the mousetrap may NOT be cut, bent, over-wound, heat-treated or altered in any other manner.
6. No part of the vehicle may be attached to any part of the track.
7. Vehicle must roll or coast along the track. All wheels must stay in contact with  the surface of the track.
8. The track may not be modified.
9. Cars **must** be clearly labeled with student(s) name

**JUDGING:**

1. Vehicles will be checked for specifications and impounded prior to the performance event. Vehicles will be released for trials but will remain impounded between runs.
2. Vehicles must be in testing condition prior to check-in for vehicle performance. If vehicles are disqualified during specification check, design changes will not be allowed.
3. Each vehicle will be allowed 2 non-consecutive runs.
4. Repairs are only allowed with replacement parts and materials. All repairs must  be done in the official repair area and vehicles must be ready when called for the  next round.
5. Each vehicle must be ready for competition when called or forfeit that trial.
6. Each vehicle must be in a “ready, stationary, hands-off” position prior to the start  order from the judge.
7. “Start” or “Ready Position”: vehicle resting with front wheels within the “Start  Zone”.
8. One team member will be responsible for launch and will indicate to the judge  that the vehicle is in the ready position.
9. The team member must wait until the judge gives the “START” order. If the  vehicle moves prior to this, a “False Start” will be declared by the judges.
10. Only one “False Start” will be allowed per run. Two “False Starts” during run  attempt disqualifies that run.
11. Students may not touch or interfere with the vehicle once the lever has been tripped.
12. Distance traveled will be measured from the front axle to the point where the front  axle stops or leaves the designated track area. Spotters will make the measurement perpendicular to the “Start Zone.” Measurement will be marked with masking tape bearing the team name.

**\*Please remember that the purpose of this contest is to use creativity to build the best mousetrap car within the framework of the rules. The purpose is not to break the rules and see if you can get away with it.**

**Track Specifications**

1. Arranged on a smooth, level floor or non-carpeted area
2. Track must be 2 meters wide and 10 meters long.
3. Edges must be marked with painters tape along the length of the track.
4. “Start Zone” is marked with tape 10 cm parallel to “Start Line”.

**Specification Check**

⁯*If all items are checked “Y” the car is cleared for competition; if any item is checked “N” the car will not be allowed to compete.*

|  |  |
| --- | --- |
| Y/N | ITEM |
|  | Standard-sized Mousetrap was used |
|  | Mousetrap is the only energy source used |
|  | Mousetrap has NOT been painted or decorated |
|  | Mousetrap springs have not been modified in any way |
|  | Car is activated by tripping the original mousetrap trip mechanism |
|  | Mousetrap can be “set” and car can sit in a hands-off “ready mode” |
|  | Car is clearly labeled with: Name and Grade |

**MOUSETRAP CAR COMPETITION**

**sample scoring sheet**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Team Name** | **Spec check** (y/n) note reason for DQ | **1st run** | **2nd run** | **Run average** |
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